on July 10, 1996. It is most likely that the earlier filed '933 specification shows constructive reduction to practice for the newly added claims. Therefore, support for the newly added claims is based on the '833 application and the later filed '109 specification. The portions of claims 11-41 in ANNEX I that are in regular text are supported not only in the '833 application but also in the '109 specification. The portions of claims 11-41 in ANNEX I that are in bold are supported in the '833 application and the portions of claims 11-41 in ANNEX I that are bold and underlined are supported in the '109 specification.

The applicants have also provided in ANNEX II the correspondence between the claims of the '705 Patent and new claims 11-41 filed herewith.

Request for Declaration of Interference

In accordance with 37 C.F.R. §1.607, applicants hereby seek to have interference declared between this application and an unexpired patent.

The unexpired patent, as indicated above, is United States Patent No. 6,153,705 (granted November 28, 2000). 37 C.F.R. §1.607(a)(1).

The applicants hereby propose one count (37 C.F.R. §1.607(a)(2)) as follows:

PROPOSED COUNT 1

Either the applicants' claim 11 or claim 1 from the '705 Patent.

The applicants submit that claims in the '705 Patent corresponding to the proposed count are as follows (37 C.F.R. §1.607(a)(3)):

PROPOSED COUNT 1 1-30.

The applicants submit that the claims in the '833 application corresponding to the above proposed count are as follows (37 C.F.R. §1.607(a)(4)):

PROPOSED COUNT 1 11-40.

The undersigned states that the newly added claims 11-40 in this application are modeled after claims 1-30 in the '705 patent, respectively. Annex III attached thereto shows the correspondence.

No claims are present in the '705 patent that do not correspond to the above proposed count.

Claims 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 present in the '833 application and the newly added claim 41 do not correspond to the above proposed count.

In ANNEX I attached hereto, the applicants have provided a chart in which support reference in the '833 application and the '109 specification is provided for

each term of claims 11-41, and thus the applicants submit that they have applied the terms of any application claim as required by 37 C.F.R. §1.607(a)(5).

The applicants submit that one or more of claims 11-40 correspond exactly or substantially to one or more claims of the '705 patent, as detailed in Annex III attached hereto. 37 C.F.R. §1.607(c).

Since claims 11-41 are presented in this application not more than one year after the issue date of the '705 patent (November 28, 2000), no showing is required under 35 U.S.C. §135(b). The applicants, therefore, submit that they have complied with all of the conditions set forth under 37 C.F.R. §1.607.

The review of the '316 application (PCT parent of the '705 patent) shows that several claims, namely claim 12 though 22 present in the '316 application were directed to the polymer compositions. Thus, the applicants believe that there may exit a pending US divisional application of the '880 application ('705 patent) having claims that are directed to the polymer compositions. The applicants respectfully request that if interference is declared between the '705 patent and the '833 application, applicants would also request that any pending divisional applications should also be included in that decision. It is to be noted that the currently pending claims 7-10 in the '833 application are directed to compositions. Therefore, applicants respectfully request that copies of file wrapper history of any such pending applications should be made available to the applicants.

Basis of the Proposed Interference – Interference-in-Fact

The applicants submit that the '833 application interferes with the '705 patent within the meaning of 35 U.S.C. §135(a), in that the '833 application contains claims for the same patentable invention(s) as claimed in the '705 patent.

An "interference-in-fact" exists when at least one claim of a party that is designated to correspond to a count and at least one claim of an opponent that is designated to correspond to the count define the "same patentable invention." 37 C.F.R. §1.601(j). The rules define "same patentable invention" as follows (37 C.F.R. §1.601(n), italics in original):

> "Invention 'A' is the *same patentable invention* as an invention 'B' when invention 'A' is the same as (35 U.S.C. 102) or is obvious (35 U.S.C. 103) in view of invention 'B' assuming invention 'B' is prior art with respect to invention 'A'."

"Resolution of an interference-in-fact issue involves a two-way patentability analysis. The claimed invention of Party A is presumed to be prior art vis-à-vis Party B and vice versa. The claimed invention of Party A must anticipate or render obvious the claimed invention of Part [sic] B *and* the claimed invention of Party B must anticipate or render obvious the claimed invention of Party A." Winter v. Fujita, 53 U.S.P.Q.2d 1234, 1243 (Bd. Pat. App. and Int'f. 1999)(italics in original).

Applying this two-way unpatentability analysis to the proposed counts, the applicants' claims 11 clearly anticipates claim 1 of the '705 Patent, and *vice versa.*

Anticipation requires the presence in a single prior art reference of each and every limitation of a claim, arranged as required by the claim. See In re Bond, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). Referring to the comparison of the Applicants' claim 11 and claim 1 in the '705 patent as set forth in Annex II (forming the basis for Proposed Count I), the language of the two claims is substantially identical with the following minor exceptions:

Claim 1 recites a precursor compound, whereas claim 11 recites a chain transfer agent. However, upon the review of the chain transfer mechanism disclosed in columns 11 and 12 of the '705 patent, it is clear that the precursor compound behaves in the same manner as the chain transfer agent in claim 11. Thus, the difference in the nomenclature is inconsequential.

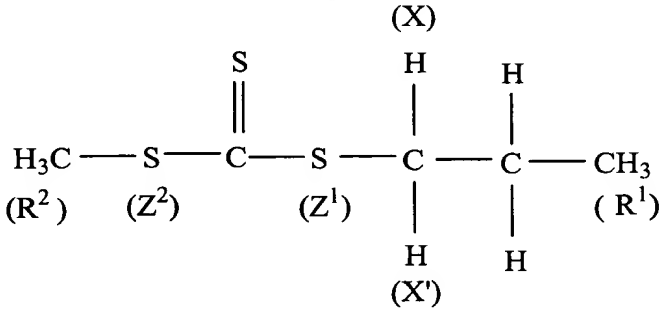
The block polymer and the precursor compound in claim 1 recites Z^1 as S or P, whereas the equivalent element in the block polymer and the chain transfer agent in claim 11 is S. However, it is readily apparent that since Z^1 as P in claim 1 is inoperative in that it is scientifically not possible to have divalent phosphorus, (phosphorus is either trivalent or penta-valent), there is no difference between Z^1 in claim 1 and S in claim 11. See the attached scientific reference in ANNEX III.

The block polymer and the precursor compound in claim 1 recites Z^2 as O, S or P, whereas the equivalent element Z in the block polymer and the chain transfer agent in claim 11 is optionally substituted alkylthio; alkoxy; dialkyl-or diaryl-phosphonato; or dialkyl-or diaryl- phosphinato. However, it is readily apparent that since Z^2 as P is inoperative in that it is scientifically not possible to have a divalent phosphorus, Z^2 as P is inoperative. By contrast, the element Z in claim 11 can be dialkyl-or diaryl-phosphonato; or dialkyl-or diaryl- phosphinato, which is scientifically sound and therefore it would be fully operative. Furthermore, Z^2 in the block polymer and the precursor compound in claim 1 has R^2 group associated with it,

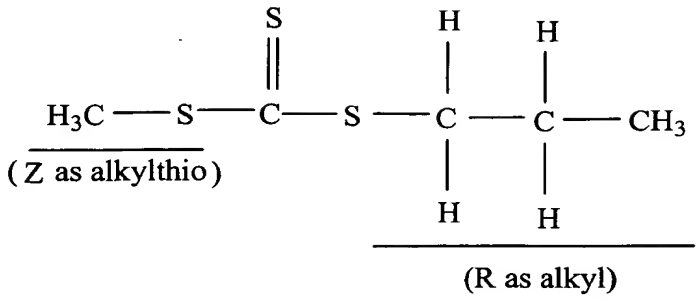
which can be optionally substituted alkyl. Thus, there is no difference between Z^2 in claim 1 and Z in claim 11 when R^2 is optionally substituted alkyl.

The precursor compound of general formula (II) in claim 1 in the '705 patent differs from the chain transfer agent of Formula C in claim 11 in that –$[CXX'–(CV=CV')_b–CH_2]_n$– is positioned between Z^1 and R^1 in the precursor compound in claim 1 and whereas there is no such backbone shown between S and R in Formula C in claim 11. However, the presence or absence of such a recitation in claim 11 does not affect the scope thereof for the following reasons. Additionally, "R" in claim 11 recites a polymer chain formed by any mechanism as possible groups. The –$[CXX'–(CV=CV')_b–CH_2]_n$– falls within this definition. The '833 application at page 7 lines 20-24 states that a polymer chain includes "chain polymers such as poly(meth)acrylates and polystyrenics". The group –$[CXX'–(CV=CV')_b–CH_2]_n$– as defined is a chain polymer. Note that radical polymerization is a chain polymerization. More specifically, "R" in claim 11 recites an optionally substituted alkyl as possible groups. The '833 application at page 14 lines 26-27 states that alkyl groups can contain 1 to 18 carbon atoms. Thus, when in formula (II) in claim 1 of the 705 patent, X and X' are both "H" and R' is, for example, CH_3, and b is zero what then results would be a propyl backbone, which is the same as in claim 1 when alkyl is a 3-carbon atom backbone. The following formulas show the direct correspondence:

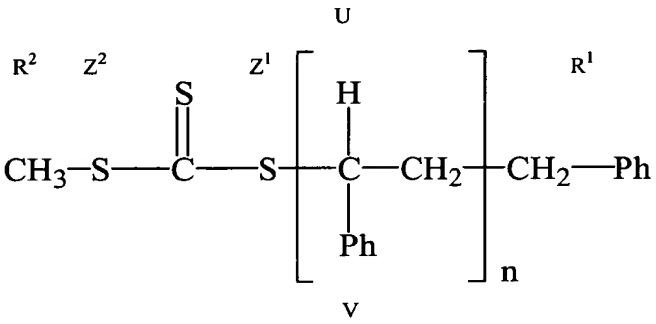
One possible precursor compound species in the '705 patent is:



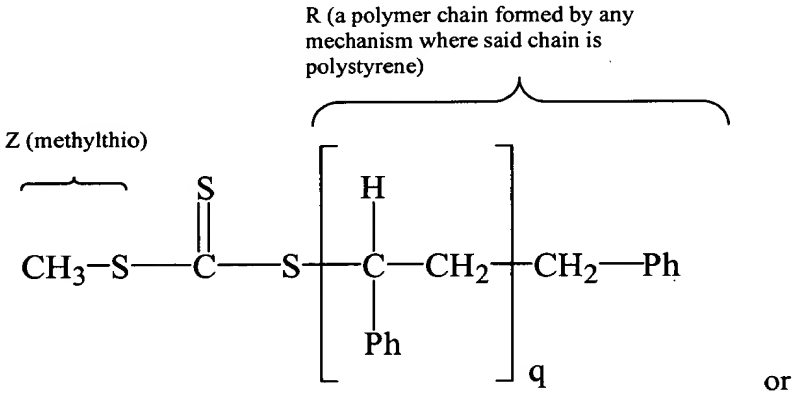
An equivalent chain transfer agent to the foregoing species in the '833 application would be:



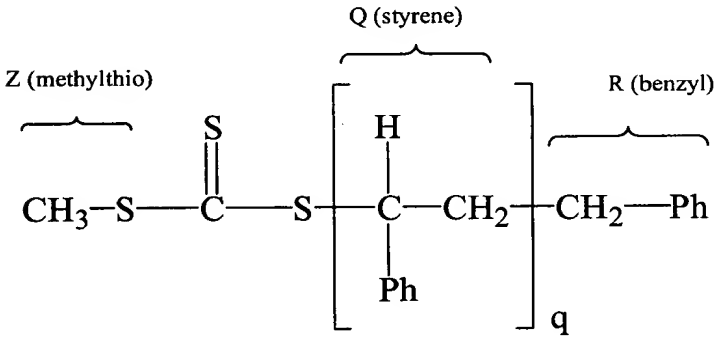
Another possible precursor compound species in the '705 patent is:



An equivalent chain transfer agent to the foregoing species in the '833 application would be:



or



Claim 1 differs from claim 11 in that the chain transfer agent in claim 11 has a chain transfer constant greater than about 0.1, while claim 1 does not recite such a limitation for the precursor compound. However, it is readily apparent that since

several species of the precursor compound in claim 1 are the same as those in claim 11, it is inherent than their chain transfer constants would also be greater that about 0.1. Thus, the presence or absence of such a recitation in claim 11 does not affect the scope thereof when compared claim 1.

Claim 11 differs from claim 1 in that the Z of the chain transfer agent in claim 11 has a proviso that "when Q is styrene or methyl methacrylate, Z is not alkoxy". However, no such limitation exists for Q in claim 11 when Z is alkoxy and Q, for example, is vinyl acetate. Thus, sufficient overlap between claim 1 and claim 11 still exists to lead one to conclude that claim 1 and 11 are the same or substantially the same.

In claim 2 it is unclear what "said hydrophilic or ionic group" refers to in claim 1. However, as best understood, the applicants believe that claim 2 in the '705 patent might be referring to X, X', Y and Y' functionalities. Thus, claim 12 added in the '833 application refers to some of these functionalities recited in claim 2 of the '705 patent, such as, for example, poly(ethylene oxide) and diallyldimethylammonium chloride, which is a quaternay ammonium salt. Thus, sufficient overlap between claim 2 and claim 12 still exists to lead one to conclude that claim 2 and 12 are the same or substantially the same.

Claim 3 in the '705 patent and claim 13 in the '833 application are identical. It should be noted that vinylnitrile is another name for acrylonitrile.

Claim 4 in the '705 patent and claim 14 in the '833 application have partial overlap, since both claims recite vinyl acetate as one of the monomers. However, since claim 4 in the '705 patent recites the monomers in the alternative, even with one convergence, i.e., the presence of vinyl acetate in both claims renders them the same or substantially the same.

Since claim 5 in the '705 patent recites R^1, in the alternative, as a group of formula $CR'^1R'^2 R'^3$, wherein R'^1, R'^2 and R'^3 represent groups (i), i.e, alkyl, alkene or alkyne group (ii), i.e., saturated or unsaturated, carbon-containing or aromatic ring **or** (iii), and since R can be substituted with an aryl, alkene or alkyne group, even with one convergence, i.e., the presence of aryl, alkene or alkyne group in claims 5 and 15 renders them the same or substantially the same.

Claim 6 in the '705 patent and claim 16 in the '833 application are substantially identical.

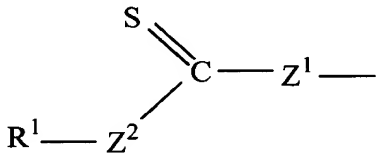
Since claim 7 in the '705 patent R^2 can be —CH_2 R'^5, in which R'^5 represents H, it is the same as R being alkyl. Thus, even with one convergence, i.e., the presence of alkyl group in claims 7 and 17 renders them the same or substantially the same.

Claim 8 in the '705 patent and claim 18 in the '833 application are identical, when seen as an entire structure.

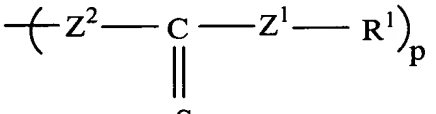
Only one alternative species of R^1, recited in claim 9 in the '705 patent is disclosed in claim 19 in the '833 application. However, even with one convergence, i.e., the presence of one of the species in claims 9 and 19 renders them the same or substantially the same.

Claim 10 in the '705 patent and claim 20 in the '833 application are identical, when seen as an entire structure.

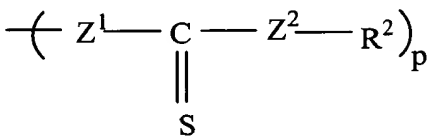
Claim 11 in the '705 patent is unclear for the following reason. Claim 11 depends from claim 1 wherein claim 1 recites a precursor compound of general formula (II) as having a **single** following **structure**:



By contrast the compounds of general formula (IV) and (V) recite **multiples** of the following **structures**:



(IV) or



(V)

wherein p is between 2 and 10.

Thus, it is not seen how the compound of formula (II) having a **single** such structure can be reconciled with compounds of formulas (IV) and (V), which have **multiples** of such structures. Moreover, claim 1 recites a block polymer terminated with **only one** such structure. It is not seen how one can produce such a block polymer by utilizing precursor compounds having **multiple** such structures.

Thus, applicants contend that claim 11 in the '705 patent, as recited, is unclear. It should have been an independent claim, which properly recites the resulting block polymers such as those provided in claim 41 herein.

Nevertheless the polymer resulting from a compound of general formula III in claim 11 of the '705 patent is the same or substantially the same as that in claim 21.

The species of the compound (III) in claim 12 in the '705 patent is covered by the generic version recited in claim 22.

The recitation at the end in claim 13 in the '705 patent, namely:

"repeating at least one more time step a) except that different monomers from those used in step a) are used, and using, instead of the precursor compound of formula (II), the block polymer obtained in step a)",

is the same or substantially the same as claim 23 in the '833 application, which recites:

"$q \geq 2$ wherein Q is selected from 2 or more different monomer species in which different monomer or group of monomers appears in discrete sequence".

The difference in the recitation is minor and it is respectfully submitted that these two claims are the same or substantially the same.

Claims 24 and 28 in the '833 application differ from claims 14 and 18 in the '705 patent, respectively in that claims 24 and 28 recite controlling the polydispersity of the polymer being formed by varying the ratio of the number of the molecules of (ii) i.e., the thiocarbonylthio compound to the number of molecules of (iii), i.e., free radicals produced from a free radical source.

However, it is readily apparent that even though claims 14 and 18 fail to recite such a step, it would be inherent for the following reason. The '705 patent at column 6, lines 27-35 states that the amount of the initiator to be used is determined so that the amount of radicals generated is at most 20 mol % with respect to the amount of compound (II), preferably at most 5 mol %. Thus, it can be seen that the '705 patent clearly recognizes the relationship between the amount of free radicals to the amount of the precursor compound contacted during the polymerization. Moreover, the '705 patent clearly shows in Table 2 at column 24 and in Table 3 at column 25 that by varying the ratio of the free radical initiator AIBN to the precursor the polydispersity is controlled. All the examples in the '705 patent only include the precursor compounds of general formula (II) in which Z^2 is an oxygen atom and the '705 patent

at column 13, lines 38-43 refers to such polymers having a polydispersity at most 2, preferably at most 1.5. However, the '705 patent at column 13, line 38 states that these results are especially obtained for block polymers of formula (I) which are chain-end functionalized by the alkyl xanthate group, i.e., these are preferred polymers. When compared to claim 1, the '705 patent at column 4, line 10 states that it is the object to provide block copolymers having low polydispersity, which at column 13, lines 36-37 is stated to be at most 2, preferably at most 1.5. Thus, it is not seen why controlling the polydispersity would also not apply to those block polymers that result from using a precursor compound having the general formula in which Z^2 is a sulfur atom. Finally, claim 19 in the '705 patent, which recites polymers with a polydispersity below about 1.5 depends from claim 1 which also claims the precursor compounds and the block polymers resulting therefrom having Z^2 with a sulfur atom. Thus, it is clear that the presence or absence of the foregoing step in claims 14 and 18 does not affect the scope thereof when compared to claims 24 and 28.

Claims 15 and 19 in the '705 patent are the same or substantially the same as claim 25 and 29 in the '833 application.

Claims 16 and 20 in the '705 patent are the same or substantially the same as claim 26 and 28 in the '833 application.

Claims 17 and 21 in the '705 patent and claims 27 and 31 in the '833 application have a partial overlap, since both claims recite as having at least two polymer blocks of polystyrene/polymethyl acrylate. However, since claims 17 and 21 in the '705 patent recite the polymer blocks in the alternative, even with one convergence, i.e., the presence of polystyrene/polymethyl acrylate block in both the claims renders them the same or substantially the same.

Claims 27 and 28 in the '705 patent and claims 37 and 38 in the '833 application have partial overlap, since both claims recite the following substituents:

"alkylcarbonyloxy, aryloxycarbonyl, carboxy, acyloxy, cyano, arylalkylcarbonyl, hydroxy, halogen, epoxy, or alkoxy".

However, since claims 27 and 28 in the '705 patent recite these and additional other substituents in the alternative, even with one convergence, i.e., the presence of the foregoing substituents in both the claims renders them the same or substantially the same.

Claims 29 and 30 in the '705 patent and claims 39 and 40 in the '833 application have partial overlap, since both claims recite the following substituents:

"epoxy, hydroxy, alkoxy, carboxy, sulfonic acid, and halo".

However, since claims 29 and 30 in the '705 patent recite these and additional other substituents in the alternative, even with one convergence, i.e., the presence of the foregoing substituents in both the claims renders them the same or substantially the same.

Since the language of most of the claims of the '705 patent in comparison to the newly added claims in the '833 application is substantially identical with the aforedescribed minor exceptions, it is respectfully submitted that interference-in-fact exists between the '705 patent and the '833 application.

Prima Facie Showing of Entitlement

In accordance with 37 C.F.R. §1.608, the undersigned alleges that there is a basis upon which the applicants are entitled to judgment relative to the patentee.

Without limiting the applicants in any way from alleging any other basis or date of invention, the undersigned submits that this application is entitled to claim the benefit under 35 U.S.C. §120 of an earlier filing date of one or more prior applications having a filing date earlier than the earliest possible date to which the '705 patent might be entitled. As demonstrated in ANNEX II attached hereto, however, the '833 application is in fact entitled to a much earlier "effective filing date" of July 10, 1996 based on the Australian '933 specification and certainly **no later than** July 18, 1996, based on the Australian '109 specification.

In addition, as demonstrated in ANNEX I attached hereto and as discussed in further detail below, the applicants contend that they are entitled, for the purposes of 35 U.S.C. §102(g), to be accorded the benefit of the Australian '933 specification filed July 10, 1996 and certainly Australian '109 specification, filed July 18, 1996, which is again well in advance of any earlier filing date that could be accorded to the '705 patent.

By contrast and without making any admission whatsoever, the '705 Patent has the potential to claim an earliest "effective filing date" based on its immediate parent application – PCT/FR98/0316, filed June 23, 1998.

In view of the foregoing comments, the undersigned submits that the applicants are entitled to "Senior Party" status in any interference between the '833 application and the '705 patent, and the burden will fall on the patentee (as "Junior Party") to establish priority.

The undersigned, consequently, contends that the applicants are entitled to judgment relative to the patentee based on the evidence currently of record (earlier filing dates accorded to the applicants).

Patentability of the Invention Claimed in this Application

As the Patent Office has already examined the subject matter of the invention(s) and found that subject matter to be patentable, the applicants respectfully submit that the subject matter of claims 11-41 of the '833 application is also patentable subject to the resolution an interference with the '705 patent.

The applicants would also reassert, as detailed in ANNEX I, that the subject matter of claims 11-41 is clearly described in the specification in the manner required by the first paragraph of 35 U.S.C. §112, and thus the applicants have shown the patentability of claims 11-41 in accordance with the notice "Interference Practice – Rules" published in the 01 December 1998 Official Gazette. However, in view of the inoperability of some of the elements in the '705 patent, such as claiming a divalent phosphorus, the same cannot be stated about the claimed subject matter of the '705 patent.

Request to Be Accorded Benefit

In the event that an interference is declared between the '833 application and the '705 patent, the applicants respectfully request that for the Count, they be accorded the benefit of the filing date of an earlier application for 35 U.S.C. §102(g) purposes, since Australia is a WTO country. Specifically, the applicants request that they be at least accorded the benefit of the '109 specification if not the benefit of the '933 specification.

In order to be accorded such benefit, the earlier application must provide a description of the subject matter of the count(s) in terms which establish that the Applicants were in possession of the invention, including all of the elements and limitations presented in the count, at the time of the earlier filing. See Hyatt v. Boone, 47 U.S.P.Q.2d 1128, 1131 (Fed. Cir. 1998). The analysis attached hereto (ANNEX I) comparing the '109 Australian specification to the proposed counts demonstrates that such example meets each and every limitation of the counts, and that the applicants were in fact in possession of the invention of the counts as of at least the filing date of the '109 specification (July 18, 1996).

Conclusion

In light of the above, the applicants submit that this application is in condition for allowance, and earnestly request an action to that effect.

Once such allowance has been indicated, the applicants further request that an interference be declared between this application and the '705 patent since, as discussed in detail above, an interference-in-fact exists between the two cases, and further that this application be accorded the benefit of the '109 Australian specification, filed July 18, 1996 for 35 U.S.C. §102(g) purposes.

Should the Examiner wish to discuss any issues involved in this application, the Examiner is respectfully invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

SUDHIR G. DESHMUKH
ATTORNEY FOR APPLICANTS
REGISTRATION NO. 33,677
TELEPHONE: (302) 992-4385
FACSIMILE: (302) 992-5922

Dated: November 28, 2001

Attachments: Annexes I, II, III, the '705 patent and the '109 specification.

Amendments to the specification

All the deletions are **BRACKETED** and all the additions are **UNDERLINED**:

Amend the paragraph on page 8, lines 6-11 in the following manner:

"E, E' [ ]are independently selected from the group consisting of H, CH_3, CN, CO_2Alkyl, Ph; K, K' are selected from the group consisting of [ ]CH_2, C=O, $Si(CH_3)_2$, O; L is selected from the group consisting of [ ]$C(E)_2$, O, $N(Alkyl)_2$ salts, $P(Alkyl)_2$ salts, $P(O)Alkyl_2$. For a further list of monomers see Moad and Solomon "The Chemistry of Free Radical Polymerization", Pergamon, London, 1995, pp 162-170."